

### A C V O L T A G E T R A N S D U C E R

- TV-1** system Single phase, average sensing
- TV-3** system Three phase, average sensing
- TV-1T** system Single phase, True rms sensing
- TV-3T** system Three phase, True rms sensing

These voltage transducers are available as average sensing devices calibrated in rms or as true rms units, either with a DC output proportional to the input.

This output signal enables several receivers to be operated simultaneously – such as indicators, recorders, alarm units, etc. The input current can be connected directly or via a P.T.

#### FEATURES

- High accuracy  $\pm 0.2\%$  R.O.
- Precision measurement even for distorted waves
- High immunity to external noise
- Wide selection of input and output range
- Quick and easy mounting

#### SPECIFICATION

<b>Accuracy:</b>	$\pm 0.2\%$ R.O. ( $\pm 0.1\%$ R.O. Option)
<b>Temp. coefficient:</b>	100ppm at 23°C $\pm 3^\circ\text{C}$ (Option 60ppm at 23°C $\pm 3^\circ\text{C}$ )
<b>Temp. range:</b>	-20 to 60 °C Operating 0~50°C
<b>Humidity range:</b>	Up to 95% RH
<b>Isolation:</b>	Input/output/power/case
<b>Dielectric test:</b>	DIN-IEC 688. 2K Vrms 50/60 Hz, 1 min. Between terminal to terminal. 2.8K Vrms/1min. Between terminal to case.
<b>Surge test:</b>	DIN-IEC 255-4, ANSI C37. 90a/1974. 5KV (1.2 x 50 $\mu\text{s}$ )
<b>Insulation resistance:</b>	100M $\Omega$ or more, DC 500V
<b>Housing material:</b>	Steel sheet
<b>Mounting:</b>	Wall mounting
<b>Power supply:</b>	AC 115/230V $\pm 15\%$ , 50/60 Hz, 3VA

#### INPUT

<b>AC input:</b>	0~150V, 0~300V, 0~600V
<b>Frequency:</b>	45Hz~65Hz
<b>Burden:</b>	$\leq 0.1\text{VA}$ (TV-1, TV-1T), $\leq 0.3\text{VA}$ (TV-3)
<b>Response sensitivity:</b>	$\leq 0.5\%$ of measuring range end value
<b>Overload capacity:</b>	1.25 x rated continuous 2 x rated 10 sec 4 x rated 5 sec or 6000V rms continuous



#### OUTPUT

<b>Output variables:</b>	DC voltage or current
<b>Ripple:</b>	<0.5% p-p max.
<b>Response time:</b>	< 0.4 sec. or less
<b>Zero adjustment:</b>	$\pm 5\%$ minimum
<b>Span adjustment:</b>	$\pm 10\%$ minimum
<b>DC current:</b>	0~20mA DC (max.)

Output	Load resistance	Load voltage 12V $R = \frac{12V}{\text{Output current}}$ (R = load resistance)
4~20mA	$\leq 600\Omega$	
0~20mA	$\leq 600\Omega$	
0~10mA	$\leq 1200\Omega$	
0~5mA	$\leq 2400\Omega$	
0~1mA	$\leq 12K\Omega$	

**DC voltage:** 0~12V DC (max.)

Output	Load resistance	Load capacity 10mA $R = \frac{\text{Output voltage}}{10\text{mA}}$
0~10V	$\geq 1000\Omega$	
0~5V	$\geq 500\Omega$	
1~5V	$\geq 500\Omega$	
0~1V	$\geq 100\Omega$	

#### CODE NUMBER

**Model-Input/Output/Power**

<b>Example:</b>	TV-1-111
<b>Input:</b>	AC 0~150V
<b>Output:</b>	DC 4~20 mA
<b>Power:</b>	AC 115/230V

# A C V O L T A G E T R A N S D U C E R

## ORDERING INFORMATION

	TA-1	—	□	□	□
	TA-1T	—	□	□	□
	TA-3	—	□	□	□
	TA-3T	—	□	□	□

**MODEL** \_\_\_\_\_

**TV-1:** 1 $\phi$ , average

**TV-1T:** 1 $\phi$ , true rms

**TV-3:** 3 $\phi$ , average

**TV-3T:** 3 $\phi$ , true rms

**INPUT** \_\_\_\_\_

**1:** AC 0~150V

**2:** AC 0~300V

**3:** AC 0~600V

**Y:** Option (0~600V max.)

**OUTPUT** \_\_\_\_\_

**1:** DC 4~20mA

**2:** DC 0~20mA

**3:** DC 0~10mA

**4:** DC 0~5mA

**5:** DC 0~1mA

**A:** DC 0~10V

**B:** DC 0~5V

**C:** DC 1~5V

**D:** DC 0~1V

**Y:** Option (0~20mA, 0~12V max.)

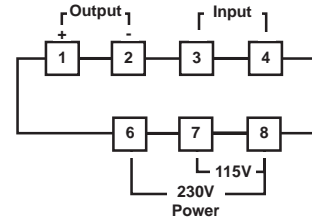
**POWER SUPPLY** \_\_\_\_\_

**1:** AC 115/230V  $\pm$ 15%

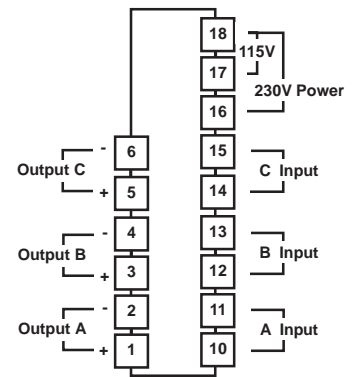
**Y:** Option

## CONNECTION DIAGRAMS

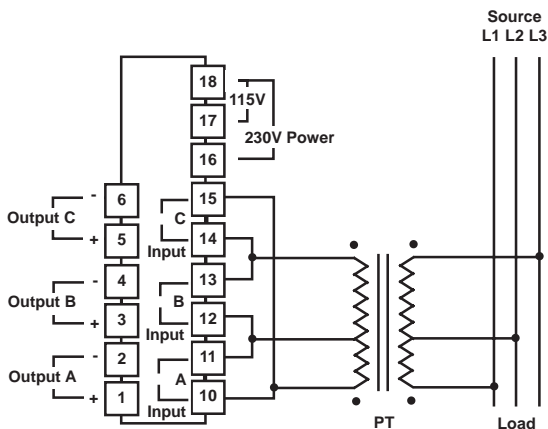
**MODEL: TV-1, TV-1T (CASE A)**



**MODEL: TV-3, TV-3T (CASE B)**



**3 $\phi$  3-WIRE VOLTAGE TRANSDUCER CONNECTION**  
**MODEL: TV-3, TV-3T (CASE B)**



**3 $\phi$  4-WIRE VOLTAGE TRANSDUCER CONNECTION**  
**MODEL: TV-3, TV-3T (CASE B)**

